

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION

GE LIGHTING SOLUTIONS, LLC,	)	CASE NO. 1:12-cv-3127
	)	
Plaintiff,	)	JUDGE JOHN R. ADAMS
	)	
-vs-	)	
	)	<u>ORDER</u>
TECHNICAL CONSUMER PRODUCTS,	)	
INC.,	)	
	)	
Defendant.	)	

This matter is before the Court to construe certain disputed terms set forth by the parties. The parties filed Opening Claim Construction briefs and response Briefs. The Court held a *Markman* hearing regarding the disputed claim terms on February 19, 2014. During the hearing, the parties addressed numerous disputed claim terms submitted in the Joint Claim Construction Statement. Doc. 62. The matter is fully briefed and ripe for adjudication. Upon considering the parties' respective Briefs, the evidence of record, and the arguments and testimony presented at the *Markman* hearing, the Court construes the disputed claim terms as set forth herein. This Order does not address the merits of the underlying patent infringement claim.

I. STANDARD

*River Painting, Inc. v. McNational, Inc.* accurately sets forth the standard a district court uses when construing disputed claims. *See*, 2013 WL 6709457, (W.D.Ky., Dec. 18, 2013):

The interpretation and construction of a patent claim are questions of law to be answered by the Court. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). "It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed.

Cir. 2005) (*en banc*) (internal quotation marks omitted). The terms of a patent claim are to be given the ordinary and customary meaning from the perspective of a person of ordinary skill in the art at the time the patent is filed. *Chamberlain Grp., Inc. v. Lear Corp.*, 516 F.3d 1331, 1335 (Fed. Cir. 2008). “[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313.

When construing claim terms, the Federal Circuit emphasizes that courts should look principally to the “intrinsic record,” which consists of the claims themselves, the patent specification, and the prosecution history. *Id.* at 1313–17. First, “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” *id.* at 1314 (*citing Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576 (Fed. Cir. 1996); *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003)), and “the context in which term is used in the asserted claim can be highly instructive,” *id.* Second, because they “do not stand alone” but instead “are part of a fully integrated written instrument,” the “claims must be read in view of the specification, of which they are a part.” *Id.* at 1315 (internal quotation marks omitted). On this point, the Federal Circuit advises that: “[T]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Id.* (internal quotation marks omitted) (*quoting Vitronics*, 90 F.3d at 1582). When reviewing the specification, however, courts must avoid reading limitations from the specification into the claims. *Id.* at 1323. To avoid importing limitations, a court must consider the purposes of the specification, which are to teach and enable those of skill in the art to make and use the invention and to provide the best way for doing so. *Id.* Third, “a court should also consider the patent’s prosecution history, if it is in evidence.” *Id.* at 1317 (internal quotation marks omitted). The prosecution history consists of the complete record of the proceedings before the U.S. Patent and Trademark Office (PTO) and includes the prior art cited during the examination of the patent. *Id.* “Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent ... [and also] like the specification, the prosecution history was created by the patentee in attempting to explain and obtain the patent.” *Id.* Typically, repeated words or phrases in the patent are construed to have the same meaning. *Id.* at 1314.

In addition to intrinsic evidence, courts may look to extrinsic evidence, which “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Id.* (internal quotation marks omitted). “However, while extrinsic evidence can shed useful light on the relevant art ... it is less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Id.* (internal quotation marks omitted) (*quoting C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)).

“Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (citing *Markman*, 517 U.S. at 389). “The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Id.* Therefore, “[a] claim construction is persuasive, not because it follows a certain rule, but because it defines terms in the context of the whole patent.” *Id.*

## II. DISCUSSION

### A. Background

Plaintiff GE Lighting Solutions, LLC (hereinafter “GE”) filed this action against Defendant Technical Consumer Products, Inc. (hereinafter “TCP”) claiming TCP infringed on two patents owned by GE, U.S. Patent No. 6,799,864 (hereinafter, “the ‘864 patent”) and U.S. Patent No. 6,787,999 (hereinafter, “the ‘999 patent”). The patents involve a process of absorbing or receiving heat from LED light bulbs and dissipating the heat; in the industry, this process is known as a heat sink. There is no dispute that the heat sink technology has been around for many years. The two patents at issue provide improved heat sinking benefits using LED components, an electronics module, a thermally conductive spreader that distributes heat, and fins which surround the lamp core and remove heat to the external environment.

The ‘864 patent’s novelty is its elongated core designed to pull heat away from LEDs. According to GE,

[t]he innovative heat sinking technology of the ‘864 patent improves the dissipation of heat from the LEDs, and allows the use of more LEDs and higher power LEDs with sufficient brightness for lighting applications without excessive temperature. It also reduces thermal wear, prolonging the useful life of LED-based lighting systems. As a result, GE’s ‘864 patent is an essential basis for a new generation of bright, environmentally friendly LED lamps that have exceptionally long life compared to traditional lighting technologies.

Doc. 56 at 8.

The '999 patent incorporates heat sinking technology that heat sinks both the LED assembly and electronics module. Doc. 55 at 4; Doc. 56 at 9.

B. Claim Terms in Dispute – the '864 Patent

1. Core

The parties dispute the definition of the term “core” in the '864 patent with respect to claims 1, 8, 14, and 15. GE's proposed definition of “core” is “a body located at a central or inner region.” TCP proposes the Court construe the definition of “core” as “a solid central foundational part smaller in diameter than the rearward facing side of the LED array.”

First, the Court must determine the scope of the patented invention by looking at the words of the claims themselves, both asserted and nonasserted. *See Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, (Fed. Cir. 1995). TCP wants the Court to import a limitation that the core be solid; however, there is no support for such a limitation. It is improper to read a limitation from the specification into the claims. *E-Pass Techs., Inc. v. 3COM Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (“The problem is to interpret claims ‘in view of the specification’ without unnecessarily importing limitations from the specification into the claims.”). In fact, the core requires that electrical connectors pass through it; thus implying that the core is not solid.

Similarly, the Court finds no support to insert the word “foundational” into the definition of core. Finally, the limitations to the dimensions of the core are likewise unsupported. In claim 15, the applicants expressly limited the dimensions of the “core” as “having a lateral area less than the lateral of the rearward facing side” of the LED assembly. Had the applicants intended for this limitation in every instance, the limitation would have been expressly included. Moreover, to add the limitation as part of the definition would render the explicit restriction in

claim 15 meaningless. *Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1362 (Fed. Cir. 2008) (“[T]he court strives to reach a claim construction that does not render claim language in dependent claims meaningless.”) (*quoting Rambus Inc. v. Infineon Tech. AG*, 318 F.3d 1081, 1093 (Fed. Cir. 2003)).

Accordingly, the Court defines “core” as “a body located at a central or inner region.”

## 2. Elongated

The parties dispute the definition of the term “elongated” in the ‘864 patent with respect to claims 1, 8, 14 and 15. GE’s proposed definition of “elongated” is “extending in length.” TCP proposes the Court construe the definition of “elongated” as “greater in length than width.”

Claim 1 states: “A light module, comprising ... a thermally conductive elongated core having a first end in thermal communication with the conductive spreader, the thermally conductive core *being elongated in a direction transverse to the generally planar front side light emitting [diode] array* to define a second end distal from the conductive spreader...” (emphasis added). Claim 8 states: “The light module as set forth in claim 1, wherein the thermally conductive core has an electrical conduit passing from the first end to the second end to provide electrical access to the front side light emitting diode array from the second end of the thermally conductive elongated core, and a physical size and shape of an exterior of the thermally conductive elongated core and the electrical conductor are designed to be accommodated in a fixture ...”. Claim 14 states: “...a thermally conductive elongated core in thermal communication with the light emitting face...” Claim 15 states: “...an elongated thermally conductive core having a lateral area less than the lateral area of the rearward facing side and connecting with a central area of the thermally conductive base, the elongated thermally

conductive core extending from the thermally conductive base in a direction away from the LED assembly...”

With respect to the claim language, the Court finds Claim 1 to be most instructive to determine the definition of the term “elongated”. Claim 1 uses the term “elongated” with respect to only a single dimension, i.e., the core is “elongated in a direction transverse to the generally planar front side light emitting diode array.” There is no mention of the width of the core.

Next, the Court reviews the specification for guidance to defining disputed terms. The patent contains five drawings; figures 1, 2, and 3 depict portions of and label the “core” at 62 and 62’. There is no figure showing the entirety of the core or how far the core extends through the diameter of the heating fins (labeled 64). TCP argues it must extend the entirety of the heating fins and be longer than it is wide. However, as GE points out, the court must not rely on the drawings to determine quantitative values such as length and width when the specification is silent with respect to these values. Doc. 60 at 3 at FN 3 (*citing Go Med. Indus. Pty., Ltd. v. Inmed Corp.*, 471 F.3d 1264, 1271 (Fed. Cir. 2006) (“[P]atent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.”)).

Finally, a review of the prosecution history favors GE’s proposed definition. Accordingly, the Court agrees with Plaintiff GE’s definition of “elongated” and defines the term as “extending in length.” To define the term as TCP requests would require the Court to add limitations to the term that are not supported by the claims, the specification, or the prosecution history.

### 3. Spreader

The parties dispute the term “spreader” with respect to claims 1 and 6. GE’s proposed definition of “spreader” is “a structure for laterally distributing heat.” TCP proposes the Court construe the definition of “spreader” as “a component made of thermally conductive material for evenly distributing heat laterally.”

Claim 1 requires “1. A light module, comprising: a light emitting diode assembly including a generally planar front side light emitting diode array and a rear side, the rear side in thermal communication with a *thermally conductive spreader*; a thermally conductive elongated core having a first end in thermal communication with the conductive spreader, the thermally conductive core being elongated in a direction transverse to the generally planar front side light emitting [diode] array to define a second end distal from *the conductive spreader*...” (emphasis added). Claim 6 language states: “The light module as set for the in claim 5, wherein the individually packaged light emitting diode elements are secured in thermal communication to the thermally conductive spreader.”

The Court finds no support that the spreader must be a device that *evenly* distributes heat. In fact, the specification language states that the heat must be distributed *relatively* evenly. The Court will not add TCP’s requested limitation.

Moreover, defining “spreader” as a “component made from thermally conductive material...” is redundant. The term in both claim 1 and claim 6 are preceded by the words “thermally conductive.” To use TCP’s definition, claim 6 would read “...individually packaged light emitting diode elements are secured in thermal communication to the thermally conductive component made of thermally conductive material...” This is duplicative and nonsensical.

The Court has reviewed the respective positions of the parties and finds that based upon the record, the term “spreader” shall be defined as “a structure for laterally distributing heat.”

#### 4. Conduit

The disputed term “conduit” appears in claim 8 of the ‘864 patent. Claim 8 states: “The light module as set forth in claim 1, wherein the thermally conductive core has an *electrical conduit* passing from the first end to the second end to provide electrical access to the front side light emitting diode array...”

GE’s proposed definition of “conduit” is “a passageway.” TCP proposes the Court construe the definition of “conduit” as “pipe or tube for protecting electric wires or cables.”

TCP argues that the prosecution history illustrates that a “conduit” is required to be a specific structure. This Court disagrees. GE’s application was rejected regarding claim 11 (now claim 8) for failing to differentiate the claimed apparatus from prior art with regards to the claimed structural limitation. A careful reading of claim 8 (amended claim 11) shows that the structural limitation refers to the structure of the core, not to a specific conduit structure.

The Court has reviewed the respective positions of the parties and finds that based upon the record, the term “conduit” shall be defined as “a passageway.”

#### 5. Surrounding

The parties dispute the term “surrounding” in claims 1 and 14. GE’s proposed definition of “surrounding” is “disposed about the perimeter.” TCP proposed the Court construe the definition of “surrounding” as “enclosing all around.”

TCP’s suggested definition lacks support in the specification. TCP states that “[i]t is apparent from FIG. 1 that the fins 64 ‘enclose all around’ the core 62. The fins are not merely ‘disposed about’ the core in some arbitrary or incomplete arrangement. They enclose it all



around, circumferentially and along the length of the core.” Doc. 55 at 26. This, however, is not true. Figure 1 shows that the fins do surround the core, but they do not enclose it. Additionally, referring to Figure 5, a different embodiment of the invention, the specification states that “the number and arrangement of attached heat dissipating fins is variable as desired.” There is no requirement that the fins “enclose” the core, only that they “surround the exterior of the assembly.”

The Court has reviewed the respective positions of the parties and finds that based upon the record, the term “surrounding” shall be defined as “disposed about the perimeter.”

#### 6. Reflector Wells

The parties dispute the term “reflector wells” which appears in claim 16. GE’s proposed definition of “reflector wells” is “light reflective recesses.” TCP proposes the Court construe the definition of “reflector wells” as “a recess that is shaped to provide a desired light output beam pattern.”

Here, TCP attempts to limit the claims to a single embodiment disclosed in the specification. The language does describe one of the “reflector well” embodiments: “[t]he wells 30, 32, 34 in which the LEDs 10, 12, 14 reside are typically stamped or drilled directly into the substrate material to preferably form ‘reflector’ shapes.” The specification also contemplates other LED and well configurations. The Federal Circuit has “expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005).

Accordingly, “reflector wells” is hereby defined as “light reflective recesses.”

## 7. Shaped Recess

GE proposes the Court adopt the definition provided by the plain and ordinary meaning of the words, or alternatively, “a recess that is shaped.” TCP proposes that the Court define “shaped recess” as “an indentation which is shaped to provide a desired light output beam pattern.”

“Words of a claim are generally given their ordinary and customary meaning, which is the meaning a term would have to a person of ordinary skill in the art after reviewing the intrinsic record at the time of the invention.” *O2 Micro Intern. Ltd. v. Beyond Innovation Technology Co., Ltd.*, 521 F.3d 1351, 1360 (citing *Phillips*, 415 F.3d at 1312–13. “In some cases, the ordinary meaning of claim language ... may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Id.* (quoting *Phillips* at 1314).

The Court has reviewed the respective positions of the Parties and finds that based upon the record, the term “shaped recess” requires no construction. Further explanation is not necessary to aid the Court or the jury in understanding the term as written.

## 8. Path

GE proposes the Court adopt the definition provided by the plain and ordinary meaning of the words, or alternatively, “a passageway.” TCP proposed that the Court define “path” as a “pipe or tube for protecting electric wires or cables.”

The Court has reviewed the respective positions of the Parties and finds that based upon the record, the term “path” requires no construction. Further explanation is not necessary to aid the Court or the jury in understanding the term as written.

9. Selectively

GE proposes the Court adopt the definition provided by the plain and ordinary meaning of the word, or alternatively, “is able to [produce/provide].” TCP proposes that the Court define “selectively” as “produces/providing one chosen from a set.”

The Court has reviewed the respective positions of the Parties and finds that based upon the record, the term “selectively” requires no construction. Further explanation is not necessary to aid the Court or the jury in understanding the term as written.

10. Heat Sink (noun)

The parties dispute the definition of the noun “heat sink” as it appears in claim 15 of the ‘864 patent. GE proposes the Court adopt the definition provided by the plain and ordinary meaning of the words, or alternatively, “a structure that receives and dissipates heat.” TCP asks the Court to define “heat sink” as “a component that absorbs and dissipates heat from a source having a higher temperature than the components temperature.”

The Court agrees with GE that the term “heat sink” as a noun is a term that a person of ordinary skill in the art after reviewing the intrinsic record at the time of the invention would not need defined. The Court has reviewed the respective positions of the parties and finds that based upon the record, the term “heat sink” (noun) requires no construction. Further explanation is not necessary to aid the Court or the jury in understanding the term as written.

### C. Claim Terms in Dispute – the ‘999 Patent

#### 1. Conduit

Consistent with the ‘864 patent, GE’s proposed definition of “conduit” is “a passageway.” TCP proposes the Court construe the definition of “conduit” as “pipe or tube for protecting electric wires or cables.”

For the reasons set forth above, the Court defines “conduit” for the ‘999 patent as “a passageway.”

#### 2. Heat Sink (verb)

GE’s proposed definition of “heat sink” when used as a verb is “receive and dissipate heat from.” TCP proposes the Court construe the definition of “heat sink” when used as a verb as “to absorb and dissipate heat from a source having a higher temperature than the heat sink’s temperature.”

The Court finds no support in the record to add TCP’s requested limitation “from a source having a higher temperature than the heat sink’s temperature.” Claim 8 of the ‘999 Patent shows that the meaning of “to heat sink” is consistent with that of the noun “heat sink.” In short, the claims and specification of the ‘999 patent are consistent: “to heat sink” means “to receive and dissipate heat from.” The Court adopts GE’s construction of the term and defines the verb “heat sink” as to “receive and dissipate heat from.”

#### 3. Heat Sink (noun)

Consistent with the '864 patent, the Court adopts the definition provided by the plain and ordinary meaning of the words.

4. Second Side

GE proposes the Court adopt the definition provided by the plain and ordinary meaning of the words, or alternatively, "other side." TCP's seeks the Court to define "second side" as "opposite to a first side of the heat sink."

The Court has reviewed the respective positions of the Parties and finds that based upon the record, the term "second side" requires no construction. Further explanation is not necessary to aid the Court or the jury in understanding the term as written.

IT IS SO ORDERED.

Dated: August 29, 2014

/s/ John R. Adams  
UNITED STATES DISTRICT JUDGE